Difficult Decision Conditioning

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Abstract: This report chronicles the exploration and prototype development of a tool designed to mitigate the traumatic effects of difficult decision-making.

Introduction

Being asked by medical staff to make decisions that can result in a loved one's death is a harrowing experience. When faced with such decisions, most adults find themselves unprepared and experience inadvertent trauma due to the pressure placed upon them by the situation (Walker & Wilson, 2018). What's worse, palliative care and assisted decision-making are rare in today's hospitals and clinical settings where the need is greatest (Meier, et al., 2017). Americans seem to face a cultural aversion to death and its implications; however, they have a greater understanding and lesser fear when they can visualize the process (Pérez, et al., 2020, 702).

Practice and controlled prior exposure to difficult medical choices have increased decision-making effectiveness and eased the experience's trauma in student medical staff (Sky,e et al., 2014). By applying these conditioning techniques to interactions with people facing difficult decisions, users could achieve significant gains in situational control and dampening of an individual's emotional response. Studies have shown that having guidance in times of difficult decision-making can increase the effectiveness of these decisions and lessen the trauma making such decisions places on patients (Chiavari, et al., 2015). However, professionals with significant facetime with patients often lack the tools to effectively do their job (Meier, et al., 2017). A tool that patient and client-facing professionals could use to assist individuals in making difficult decisions would satisfy the need for an effective tool and improve individuals' lives who are experiencing a crisis brought on by being forced to make hard choices. Implementation of accessibility-increasing technologies like smartphones and the ever-widening access to the Internet in public and private spaces can allow a transmedia educational experience to reach a broad audience through various channels. Transmedia increases learners' engagement and raises comprehension by immersing them in educational storytelling (Dickinson-Delaporte, et al., 2018). With the strategies from controlled exposure education and incorporating a novel transmedia approach, users will be able to engage with content from multiple angles and explore various learning and comprehension techniques while shoring their emotional reserves for dealing with traumatic medical decisions.

Difficult decision-making conditioning has been proven effective in interactive theater pieces developed to allow users to increase their resilience toward hard choices and traumatic medical experiences and become familiar with the subject. Waler & Wilson (2018) describe an interactive theater experience created by a former patient detained under the Mental Health Act. The patient turned her experience into an interactive theater piece performed by nursing students to other nursing students who could use clickers to influence how the play progressed and direct their colleague's choices in the drama. Skye, et al. (2014) describe the process of using dramaturgical situations in which medical students engage in the play by pretending to break hard news to professional actors posing as distraught families and patients. In this way, the students workshop their strategies and empathy before facing the real thing. This interactivity and empathy-based approach enforce the methodology of controlled exposure through faux experiences.

The author proposes an educational transmedia experience to entertain, immerse, and educate users. Without entertainment, cognition is impaired, as evidenced by Dickonson-Delaporte, et al.'s 2018 study that explored the efficacy of transmedia in engaging Latina children with depression and anxiety. *Difficult Decision Conditioning* (DCC) will utilize interactivity, definitive decision conditioning, and controlled exposure through a multimedia dossier designed to engage the participants in various storyworlds and expose them to hard choices. Supplemented by multiple media forms, the project's mothership will be the faux role users inhabit as participants in the stories. By using immersive storytelling techniques, the goal is for participants to be acclimated to real-world situations and become conditioned to the stresses of these choices.

The author conducted preliminary empathy research through surveys and expert interviews to determine the best media avenues for implementing DCC. By interacting with users in the early stages and using design thinking methods, the author conceptualized the prototype of DCC. DCC's effectiveness is measured through quantitative data collection techniques and qualitative feedback through short answer responses that gauges the tool's effectiveness in the desired educational goals, empathy building, and experience. The potential for this prototype is for DCC to become a future venture model specifically attractive to non-profits and professionals working with individuals in crisis. By studying the impact of narrative communication and conditioning, experiences may be crafted that resonate across broad audiences and leave them with skills that transfer to their lives. Difficult decision-making conditioning, with data and faith, can become a standard practice for industries that impact the lives of those in trauma.

Review of literature

The literature review for this project consisted of Internet searches using Ball State University's library, Google Scholar, and EBSCO with the keywords "difficult decision making," "decision making," "social work communication tools," "nursing communication tools," "palliative care," and "healthcare decisions." The articles collected are categorized by Healthcare and Social Work Communication Needs and Transmedia Solutions. The author conducted this research between January and March of 2022.

Healthcare and Social Work Communication Needs

To illustrate the issues with the American healthcare system, palliative care and American attitudes toward death and dying must be examined. Research for *Palliative* began with this step to assess the problems faced by patient-facing professionals trained to interact with individuals facing a crisis involving difficult decisions. The Center to Advance Palliative Care (n.d.) defines palliative care as "specialized medical care for people living with serious illnesses. This type of care focuses on providing relief from the symptoms and stress of the illness. The goal is to improve quality of life for both the patient and the family" (p. 1). In 2014, the World Health Organization's international call named palliative care an essential element of the healthcare continuum. Yet, as recently as 2017, this care was limited to people dying soon rather than those with longer-term conditions (Meier, et al., 2017). *A Strategy for Palliative Care* by Meier, et al. outlines the issue that "most health care providers lack knowledge about and skills in pain and symptom management, communication, and care coordination, and both the public and health professionals are only vaguely aware of the benefits of palliative care and how and when to access it" (2017). Pérez, et al. (2020) found that those with greater image control, or positive mental images of death, had significantly less Fear of Death. These data points are significant because it is apparent that death and its illustration are inherent in the minds of North Americans even though, in practice, North American institutions inadequately treat those who approach death and dying. This underlying inadequacy is present in the communication needs of healthcare and social workers. Palliative care comes into play at a person's most vulnerable stage of life and brings comfort during a person's last days, even if that death is still some time off. Since attitudes towards death are so negative in American culture, these end-of-life conversations and decisions can become extremely traumatic to those experiencing them. There is an express need for better palliative care options and tools.

Sinclair (2020) tackles communication challenges for nursing in *Better Communication for Nurses* (2020).

“Nurses need to communicate changes in patient condition, hand-off during shift changes, and information to families in a succinct and clear way ” (para. 3). Sinclair reviews various communication tools for nurses, including Situation, Background, Assessment, Recommendation and Background, Affect, Trouble Handling, and Empathy. However, the effectiveness of these tools is not explored. However, Guttman, et al. (2018) detail the critical nature of communication in a healthcare setting. They explain that “communication error as a major factor (70%) in adverse events,” and “despite numerous strategies to improve patient safety, which are rooted in other high-reliability industries (e.g., commercial aviation and naval aviation), communication remains an adaptive challenge that has proven difficult to overcome in the sociotechnical landscape that defines healthcare” (p. 1). The contrasting points in these two articles show that though nurses have tools available, it is difficult to put these strategies into practice.

Khizar and Harwood (2017) enforce this dilemma by noting that the particularities of communication with patients become exacerbated by the inclusion of family and other stakeholders and how traditional communication methods, “based on balancing benefits and burdens of a treatment, and then deciding based on autonomy (or best interests for someone lacking mental capacity), within the constraints of resources and equity, remains valid but is often inadequate” (p. 1). Specially trained palliative care nurses are not always available and scarce in America’s medical system. Joren, et al. (2021) show that home-care nurses are more competent than hospital nurses in palliative care by “overall, 70% of the nurses rated the quality of palliative care as very good to excellent. This percentage was higher among home care nurses (76.4%) than hospital nurses (59.4%). Moreover, a higher percentage of home care nurses (94.4%) stated they felt competent to a great extent to provide palliative care compared to hospital nurses (84.7%)” (para. 3). This lack of confidence in hospital nurses exacerbates an already pressing problem when patients rely on them for palliative care and end-of-life decision-making. Walker and Wilson (2018) describe the use of interactive theater created by a patient detained under the Mental Health Act. “The project aimed to raise awareness of the impact of clinical decision-making and the inadvertent trauma that poorly thought out decisions can have on service users” (para. 1), which shows how traumatic medical decisions can be, especially poorly made. These studies show a need for tools and methods that increase the ease of patient communication.

Social work examined the other patient and client forward profession for communication difficulties. Interviews conducted with three practicing social workers during Summer 2020 noted a common need for tools that worked on the level on which most of their clients operate. The consensus is that most tools afforded to social work professionals use obtuse language and are inaccessible to people who may benefit from them most. Perron, et al. (2010) warn of the difficulties of using information and communication technologies despite their ubiquitous nature and widespread use. Even though their accessibility may be high, their practice places the ethics of social workers at risk.

Transmedia Solutions

Health care decision counseling is defined by healthinsurance.org (n.d) as “services, sometimes provided by insurance companies or employers, that help individuals weigh the benefits, risks, and costs of medical tests and treatments” (para. 1). This service is non-judgemental and serves to help individuals make more informed choices about their health and medical care that take into account the individual's unique set of circumstances. Chiavari, et al. (2015) found a significant improvement in the stage of decision making with decision counseling and a substantial reduction in the decisional conflict scale and subscales measured with the Decision Support Questionnaire. The study finds that decision counseling helps facilitate decision-making and reduce decisional conflict. This is important because it reinforces the importance of support roles in difficult decision-making and that a tool without guidance may not be as effective. Alvarez, et al (2020) supports the use of tools in making difficult medical decisions faced by providers during the COVID-19 pandemic by writing that “we can employ the decision tools of conceptual analysis, critical reasoning about values and evidence, and moral evaluation in making these difficult decisions collectively and with sufficient stakeholder engagement” (p. 1). Knowing that counseling and tools both increase the efficacy and reduce the stress of making difficult decisions, I began to study what form a tool could take using my education in transmedia studies and human-computer interaction.

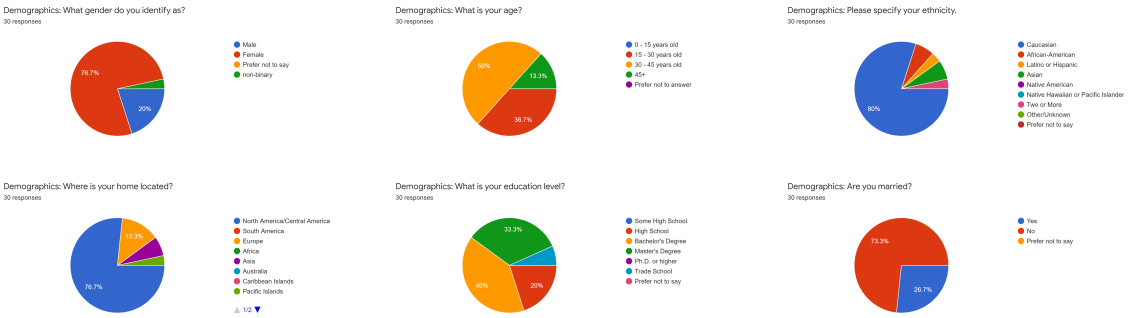
Dickinson-Delaporte, et al. (2018) show that “the transmedia approach has value and can be successfully enacted in an undergraduate course to create connected learning opportunities and elicit cognitive, affective, and behavioral engagement” (p. 1) while noting “the participatory nature of the pedagogy did create challenges for digital novices.” This is important as a grounding reminder that even though technology increases the accessibility of tools, any solution that is too obtuse may hinder users with lower technological proficiency. Heilemann, et al. (2018) used transmedia storytelling to attract English-speaking Latina women with elevated symptoms of depression and anxiety to engage in an intervention that includes videos and a webpage with links to symptom management resources. The study found that “participants embraced the main character, Catalina, related to her as a person with an emotional life and a temporal reality, reported that they learned from her and wanted more episodes that featured her and her life” (para. 4). This finding is important because it shows that empathetic responses to well-crafted stories can connect the participant and form strong cognitive bonds between the character and those viewing that character’s story. To reinforce the importance of interactivity with pedagogy, Skye, et al. (2014) monitored the use of professional actors in role-play scenarios in which medical students practiced giving bad news to patients. The study found that “ninety-four percent agreed that the theater piece prompted reflection on patient-provider communications, and 89% agreed that it stimulated discussion on complex issues with breaking bad news” (p. 1). The tool to be constructed for this project must be accessible, engaging, and easy to use for users and professionals who may facilitate the tool’s use.

Project design

DDC’s prototype took the form of an interactive Google Form. Six demographic questions lead off the experience, identifying the user’s gender identity, age, ethnicity, home location, education level, and marital status. The core of the experience includes eight interactive stories that the user must navigate to complete the prototype. These stories are represented in three media forms that focus on disparate channels of cognition. One of the stories, a control, is described in all three media forms. The three media forms are visual (written), audio (narration), and dual-channel (video). There are three visual stories, three audio stories, and two dual-channel stories. Each story, presented in second-person narration, forces the user to make a difficult decision which will ultimately impact the characters and the user as if they were present in the narrative. These stories are based on narratives the author collected during the empathize phase of his design thinking progression. An effort was made to make the choices as ambiguous as possible; however, the stories were designed to be particularly stressful where choice ambiguity was impossible. Quantitative survey questions are presented to the user after they navigate each story and after the experience to gauge the user’s satisfaction and the overall utility of the DDC tool.

Participants

Thirty respondents completed the DDC prototype. The identified gender of respondents was 76.7% female, 20% male, and 3.3% non-binary. The respondents' ages were 50% 31-45 years old, 36.7% 15-30 years old, and 13.3% 45+ years old. The ethnicities of respondents were 80% Caucasian, 6.7% African-American, 6.7% Asian, 1% Latino or Hispanic, and 1% two or more. The home respondents identified with were 76.7% North American/Central American, 13.3% European, 6.7% Asian, and 3.3% Pacific Islander. The highest level of education respondents had completed 40% Bachelor’s Degree, 33.3% Master’s Degree, 20% High School, and 6.7% Trade School. The marital status of respondents was 73.3% single and 26.7% married. One respondent did not proceed through the experience after the demographics questions as they were too disturbed by the material to finish.



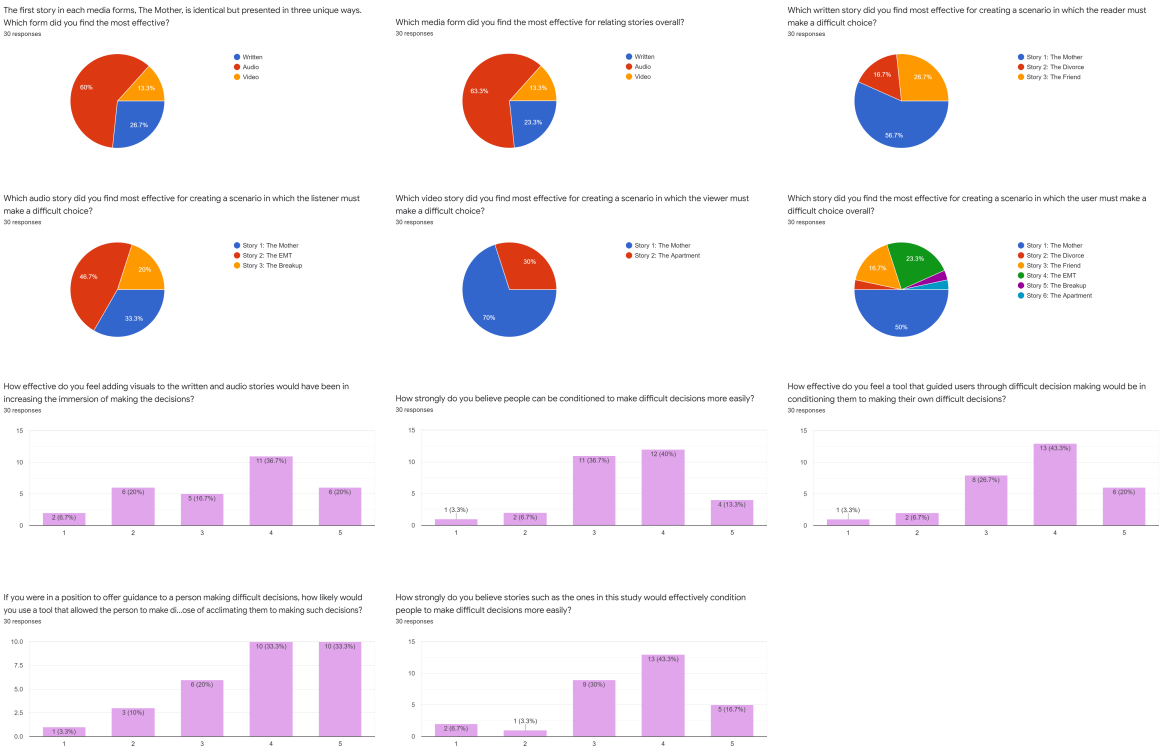
Procedures

The DDC prototype was published on Friday, April 22, 2022, at 11:15 am EST, and responses were collected through Thursday, April 28, 2022, at 9:49 pm EST. The survey was posted on Facebook, Instagram, Imgur, and Twitter feeds, and survey requests were also published on Reddit boards and Facebook user groups specializing in academic surveys and study exchanges.

Discussion

DCC's purpose is to prototype a tool that could be used by professionals such as palliative care nurses and social workers to condition clients and patients against the traumatic effects of being forced to make difficult decisions. In its nascent form, DCC is a simplistic tool with a heavy emphasis on acquiring quantitative data and qualitative feedback from respondents to improve the quality of the experience towards the end of full implementation. Using early empathetic research and existing literature. The author built DCC's prototype on scientific backing with a real-world utilization and purpose. The results of the prototype's deployment show that respondents, upon completing DCC, felt that difficult decision-making conditioning was possible, practical, and worthwhile.

60% of respondents found the audio form of the control story, The Mother, the most effective. The Mother presented respondents with a medical dilemma directly based on the author's personal experience and inspired this study. In direct commentary after the survey, respondents mentioned that the audio form was the most effective due to the intimate nature of the narration and the reader's emphasis on diction and emotion. Respondents found the audio to be the most compelling narrative form, with 63.3% of respondents preferring it. 56.7% of respondents found The Mother to be the most effective written story, with The Friend coming next with 26.7%. 46.7% of respondents found The EMT to be the most effective audio story, with The Mother being the next closest with 33.3%. 70% of respondents found The Mother to be a more effective dual-channel story. 50% of respondents felt the control story, The Mother, was the most effective for creating a scenario in which a person must make a difficult choice, with the next closest being The EMT with 23.3%. 56.7% of respondents felt that adding visuals to the stories enhanced the immersion. After completing DCC, 53.3% of respondents believed that difficult decision-making conditioning was possible. A 63.3% majority of respondents felt DCC would be effective at difficult decision-making conditioning. A 66.6% majority of respondents would use a tool such as DCC in a clinical setting to assist patients or clients with acclimating them to making a difficult decision. A 60% majority of respondents believe that stories such as the ones in DCC could condition people to make difficult decisions more easily.



The most direct concern came from a respondent that worried that conditioning a person through sustained exposure to stressful situations would result in rumination. “It’s something I’ve done for years, going over a problem scenario in my head to prepare myself for a situation, and it resulted in crippling anxiety,” wrote the respondent. “It took years to condition out.” Other than that outlier, most respondents responded positively to the experience, commenting on its interesting nature and how respondents have experienced similar initiatives in the areas of diversity training. The second most direct concern came from a user that suggested that the longer stories allowed for a more empathetic experience and that they should be favored over the shorter tales such as The EMT and The Apartment. This point was not corroborated by the data which showed that The EMT was the second most effective story presented to respondents.

Contributions

DCC’s contributions to the field focus on its proof of concept that a tool designed to condition users against the harmful effects of difficult decision-making is possible and a worthy goal. With most respondents reporting that such experiences and narratives would influence future decisions, much data supports that DCC and similar tools can effectively condition people in crisis against the traumatic effects of having to make hard choices.

Limitations

The most substantial limitation of DCC is time. Given more, the design of DCC could be iterated upon, tested, and improved, getting the project closer to refinement and a deployable prototype. Easy access to technology and programming knowledge limitations kept DCC from earning metrics comparable to other studies in which researchers utilized algorithm-based evaluation techniques. Those building upon DCC could improve the simplistic nature of quantitative data collection on a scale of 1 to 5 with enhanced data collection techniques. The testing time for DCC was one day short of a week. With a larger testing window, the author could have collected more responses.

Google Forms does not allow for audio to be embedded inside it; instead, videos must be uploaded to YouTube with a blank black visual and used in place of a proper audio player. The accompanying black visual to the audio may have affected respondents.

Improvements

While going over the study results, the one question the author regretted not asking directly was whether the scenarios became easier or more stressful throughout the experience. This would have led to a direct response from the user rather than one implied by the data. The second draft of DCC would test video, animation, and comic forms of media alongside the audio format. While being emphasized in empathy research, written did not prove to be the preferential form of delivery when presented alongside audio and video. If audio proved to be the champion form of media, a greater emphasis on this channel would be given to the third draft of DCC. Future designers could improve the user experience and user interface of DCC to form a more cohesive and pleasant one than that of a standard Google Form. Due to respondents' preference for The Mother and The EMT as compelling narratives, more emphasis would be placed on medical scenarios in subsequent drafts. Emphasizing the transmedia approach, a cohesive and sequential narrative could be developed as the user moved through the experience. Future researchers could explore the connection and progression of the story from one difficult choice in a single narrative progressing through different forms instead of the anthological approach of DCC.

Conclusion and future work

The real-world scenario that inspired this study left a traumatic impression on the author, which has colored every hard choice he has had to make since. When the medical staff requested him to make a choice that could take away his mother’s life, the resulting impact resounded with him from that moment to the writing of this study and the prototype of DCC. Difficult decision-making is a common experience shared by many. The human experience is unique to the individual, and what constitutes a hard choice for one may be overwhelming for another. Tools such as DCC have the chance to save lives, reduce burdens, and normalize the stress that comes with crisis-level decisions. From experiencing DCC alone, the author was told directly by respondents that the prototype inspired them to reach out to their parents with concerns about getting their affairs in order in case the worst should happen and they had to experience a scenario like The Mother first-hand. These affirmations and the data collected from DCC show space and the need for a tool that helps people learn to deal with these situations and that a net good can come from its implementation. Difficult decisions needn’t be a traumatic rarity with time, work, and effort. Instead, they can be an opportunity to grow, heal, and be decisive.

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